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Claim 5 (Amended). The magnetic recording medium of claim 1 wherein said crystal particle diameter control layer further contains at least one element selected from a group consisting of molybdenum (Mo), vanadium (V), tungsten (W), zirconium (Zr), titanium (Ti), tantalum (Ta), nickel (Ni), niobium (Nb), oxygen (O), and nitrogen (N).

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Claim 7 (Amended). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 1.

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Claim 9 (Amended). The magnetic recording medium according to claim 7 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 10 (Amended). The magnetic recording medium according to claim 7 wherein for said magnetic layer, the saturation magnetic flux density B_s of the substrate-side magnetic layer is larger than the saturation magnetic flux density B_s of the medium surface-side magnetic layer.

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Claim 12 (Amended). The magnetic recording medium according to claim 11 wherein an under film for adjusting the crystal orientation of the magnetic layer is formed between said seed layer and said magnetic layer.

Claim 13 (Amended). The magnetic recording medium according to claim 11 wherein the film thickness of said nonmagnetic film is in a range of 100 to 550 angstroms.

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Claim 14 (Amended). The magnetic recording medium according to claim 11 wherein the film thickness of said intermediate layer is in a range of 5 to 50 angstroms.

Claim 15 (Amended). The magnetic recording medium according to claim 11 wherein said intermediate layer comprises a nonmagnetic material which includes the same crystal structure as that of said nonmagnetic film.

Claim 16 (Amended). The magnetic recording medium according to claim 15 wherein said intermediate layer comprises a material in which a crystal lattice surface interval does not match with that of said nonmagnetic film.

Claim 17 (Amended). The magnetic recording medium according to claim 16 wherein said nonmagnetic film comprises a material containing one alloy selected from a group consisting of NiAl, AlCo, FeAl, FeTi, CoFe, CoTi, CoHf, CoZr, NiTi, CuZn, AlMn, AlRe, AgMg, CuSi, NiGa, CuBe, MnV, NiZn, FeV, CrTi, CrNi, NiAlRu, NiAlW, NiAlTa, NiAlHf, NiAlMo, NiAlCr, NiAlZr, NiAlNb, and Al_2FeMn_2 , and said intermediate layer comprises a material containing Cr.

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Claim 18 (Amended). The magnetic recording medium according to claim 17 wherein said intermediate layer comprises a material formed of Cr and at least one type selected from a group consisting of Mo, V, W, and Ta.

Claim 19 (Amended). The magnetic recording medium according to claim 18 wherein said intermediate layer comprises an alloy mainly containing Cr and W.

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Claim 24 (Amended). The thermal stability measuring apparatus of the magnetic recording medium according to claim 23 wherein said head/disk mechanism section comprises a mechanism for fixing the magnetic head to a predetermined position above the main surface of the magnetic disk.

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Please add the following claims:

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Claim 26 (New). The magnetic recording medium according to claim 2 wherein said crystal particle diameter control layer comprises an alloy further containing manganese (Mn).

Claim 27 (New). The magnetic recording medium according to claim 26 wherein said crystal particle diameter control layer contains manganese (Mn) in a range of 0.5 at% to 5 at%.

Claim 28 (New). The magnetic recording medium of claim 2 wherein said crystal particle diameter control layer further contains at least one element selected from a group consisting of

molybdenum (Mo), vanadium (V), tungsten (W), zirconium (Zr), titanium (Ti), tantalum (Ta), nickel (Ni), niobium (Nb), oxygen (O), and nitrogen (N).

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Claim 29 (New). The magnetic recording medium of claim 3 wherein said crystal particle diameter control layer further contains at least one element selected from a group consisting of molybdenum (Mo), vanadium (V), tungsten (W), zirconium (Zr), titanium (Ti), tantalum (Ta), nickel (Ni), niobium (Nb), oxygen (O), and nitrogen (N).

Claim 30 (New). The magnetic recording medium of claim 26 wherein said crystal particle diameter control layer further contains at least one element selected from a group consisting of molybdenum (Mo), vanadium (V), tungsten (W), zirconium (Zr), titanium (Ti), tantalum (Ta), nickel (Ni), niobium (Nb), oxygen (O), and nitrogen (N).

Claim 31 (New). The magnetic recording medium of claim 4 wherein said crystal particle diameter control layer further contains at least one element selected from a group consisting of molybdenum (Mo), vanadium (V), tungsten (W), zirconium (Zr), titanium (Ti), tantalum (Ta), nickel (Ni), niobium (Nb), oxygen (O), and nitrogen (N).

Claim 32 (New). The magnetic recording medium of claim 27 wherein said crystal particle diameter control layer further contains at least one element selected from a group consisting of molybdenum (Mo), vanadium (V), tungsten (W), zirconium (Zr), titanium (Ti), tantalum (Ta), nickel (Ni), niobium (Nb), oxygen (O), and nitrogen (N).

Claim 33 (New). The magnetic recording medium according to claim 28 wherein the content of said element or the total of said elements is in a range of 2 at% to 30 at%.

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Claim 34 (New). The magnetic recording medium according to claim 29 wherein the content of said element or the total of said elements is in a range of 2 at% to 30 at%.

Claim 35 (New). The magnetic recording medium according to claim 30 wherein the content of said element or the total of said elements is in a range of 2 at% to 30 at%.

Claim 36 (New). The magnetic recording medium according to claim 31 wherein the content of said element or the total of said elements is in a range of 2 at% to 30 at%.

Claim 37 (New). The magnetic recording medium according to claim 32 wherein the content of said element or the total of said elements is in a range of 2 at% to 30 at%.

Claim 38 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 2.

Claim 39 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

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Contd* said nonmagnetic layer comprises the crystal particle diameter control layer of claim 3.

Claim 40 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 26.

Claim 41 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 4.

Claim 42 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 27.

Claim 43 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

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said nonmagnetic layer comprises the crystal particle diameter control layer of claim 5.

Claim 44 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 28.

Claim 45 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 29.

Claim 46 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 30.

Claim 47 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers,

wherein:

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Unid said nonmagnetic layer comprises the crystal particle diameter control layer of claim 31.

Claim 48 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers,

wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 32.

Claim 49 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers,

wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 6.

Claim 50 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers,

wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 33.

Claim 51 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

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said nonmagnetic layer comprises the crystal particle diameter control layer of claim 34.

Claim 52 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 35.

Claim 53 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 36.

Claim 54 (New). A magnetic recording medium including two or more magnetic layers on a substrate, and including a nonmagnetic layer between at least one pair of said magnetic layers, wherein:

said nonmagnetic layer comprises the crystal particle diameter control layer of claim 37.

Claim 55 (New). The magnetic recording medium according to claim 38 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 56 (New). The magnetic recording medium according to claim 39 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

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Claim 57 (New). The magnetic recording medium according to claim 40 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 58 (New). The magnetic recording medium according to claim 41 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 59 (New). The magnetic recording medium according to claim 42 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 60 (New). The magnetic recording medium according to claim 43 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 61 (New). The magnetic recording medium according to claim 44 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 62 (New). The magnetic recording medium according to claim 45 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 63 (New). The magnetic recording medium according to claim 46 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

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Claim 64 (New). The magnetic recording medium according to claim 47 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 65 (New). The magnetic recording medium according to claim 48 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 66 (New). The magnetic recording medium according to claim 49 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 67 (New). The magnetic recording medium according to claim 50 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 68 (New). The magnetic recording medium according to claim 51 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 69 (New). The magnetic recording medium according to claim 52 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 70 (New). The magnetic recording medium according to claim 53 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

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Claim 71 (New). The magnetic recording medium according to claim 54 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 72 (New). The magnetic recording medium according to claim 8 wherein the film thickness of said nonmagnetic layer is in a range of 5 to 100 angstroms.

Claim 73 (New). The magnetic recording medium according to claim 38 wherein for said magnetic layer, the saturation magnetic flux density B_s of the substrate-side magnetic layer is larger than the saturation magnetic flux density B_s of the medium surface-side magnetic layer.

Claim 74 (New). The magnetic recording medium according to claim 12 wherein the film thickness of said nonmagnetic film is in a range of 100 to 550 angstroms.

Claim 75 (New). The magnetic recording medium according to claim 12 wherein the film thickness of said intermediate layer is in a range of 5 to 50 angstroms.

Claim 76 (New). The magnetic recording medium according to claim 13 wherein the film thickness of said intermediate layer is in a range of 5 to 50 angstroms.